

# PATENT ABSTRACTS OF JAPAN

(11)Publication number : 11-206385

(43)Date of publication of application : 03.08.1999

(51)Int.Cl.

C12N 15/09  
C12N 1/21  
C12P 7/44  
C12P 13/04  
// (C12N 15/09  
C12R 1:13 )  
(C12N 1/21  
C12R 1:15 )  
(C12N 1/21  
C12R 1:13 )  
(C12P 7/44  
C12R 1:15 )  
(C12P 7/44  
C12R 1:13 )  
(C12P 13/04  
C12R 1:15 )  
(C12P 13/04  
C12R 1:13 )

(21)Application number : 10-030594

(22)Date of filing : 28.01.1998

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## (54) LACTATE DEHYDROGENASE GENE AND LACTATE DEHYDROGENASE GENE DISTRUPTION STRAIN

(57)Abstract:

**PROBLEM TO BE SOLVED:** To obtain the subject new gene consisting of a DNA encoding a protein with a specific amino acid sequence, capable of giving a lactate dehydrogenate gene distrupction strain of microorganisms, and enabling byproduct lactic acid to be reduced in the production of fine chemicals.

**SOLUTION:** This gene is a new latctate dehydrogenase gene encoding a protein with an amino acid sequence of the formula, or a protein with an amino acid sequence wherein one or several amino acids are deleted, substituted or added in the amino acid sequence of the above formula, also having lactate dehydrogenase activity, is useful for e.g. the production of a lactate dehydrogenase gene-destructive strain of microorganisms under the principle of homologous recombination with a chromosome DNA, and is capable of reducing byproduct lactic acid in the production of various fine chemicals such as amino acid and other organic acids by the use of the above distrupction strain.

```
Met Leu Glu Thr Val Gly Ser Lys His Val Leu Ile Glu Ala Gly Asp
      5              10              15
Val Gly Val Ala Tyr Ala Ser Ala Leu Ile Ser Glu Gly Met Ala Asp
      20              25              30
His Leu Ala Ile Ile Asp Ile Asp Glu Lys Lys Leu Glu Gly Asn Val
      35              40              45
      |
Glu Thr Asp Ala Val Val Asn Arg Arg Gly Ile Ser Arg Val Val Glu
      50              55              60
Leu Glu Ile Ile Asp His Glu Val Glu Arg Phe Lys His Ser Ala Asn
      65              70              75
Phe Leu Ala Glu Ile Glu Lys Glu Phe Phe
      80              85              90
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This gene is obtained by screening a chromosome DNA library of corynebacterium such as *Brevibacterium flavum* by the use of its partial fragment.